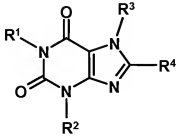
IN THE CLAIMS

1. (Previously presented) A Compound of general formula



(I),

wherein

R^1 denotes a C_{1-3}-alkyl group substituted by a group R_a, wherein

R_a denotes a 1,4-dihydro-quinazolinyl or 3,4-dihydro-quinazolinyl group wherein in each case in the benzo moiety

one to three methyne groups may be replaced by nitrogen atoms,

a 3,4-dihydro-isoquinolinyl, 1*H*-benzo[*d*][1,2]oxazinyl, 4*H*-benzo[*e*][1,3]oxazinyl, 4*H*-benzo[*d*][1,3]oxazinyl or 2*H*-benzo[1,4]oxazinyl group, wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms and in the heterocyclyl moiety a methylene group may be replaced by a carbonyl group,

a 4*H*-benzo[*e*][1,3]thiazinyl, 4*H*-benzo[*d*][1,3]thiazinyl or 2*H*-benzo[1,4]thiazinyl group, wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms and in the heterocyclyl moiety a methylene group may be replaced by a carbonyl group and a sulphur atom may be replaced by a sulphinyl or sulphonyl group,

a 2-oxo-2*H*-benzo[*e*][1,3]oxazinyl or 2,2-dioxo-1*H*-benzo[*c*][1,2]thiazinyl group, wherein in each case in the benzo moiety

one to three methyne groups may be replaced by nitrogen atoms,

a 2,3-dihydro-1*H*-benzo[*e*][1,4]diazepinyl, 4,5-dihydro-3*H*-benzo[*b*]-[1,4]diazepinyl or 5-oxo-4,5-dihydro-3*H*-benzo[*e*][1,4]diazepinyl group, wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms and in the heterocyclyl moiety a methylene group may be replaced by a carbonyl group ,

a 2,3-dihydro-benzo[*f*][1,4]oxazepinyl or 2,3-dihydro-benzo[*b*][1,4]oxazepinyl group wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms and in the heterocyclyl moiety a methylene group may be replaced by a carbonyl group,

a 2,3-dihydro-benzo[*f*][1,4]thiazepinyl or 2,3-dihydro-benzo[*b*][1,4]thiazepinyl group, wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms and in the heterocyclyl moiety a methylene group may be

replaced by a carbonyl group and a sulphur atom may be replaced by a sulphinyl or sulphonyl group,

a 5-oxo-4,5-dihydro-benzo[*f*][1,3,4]oxadiazepinyl group wherein in the benzo moiety

one to three methyne groups may be replaced by nitrogen atoms,

an 11*H*-dibenzo[*b*,*e*]azepinyl or 5H-dibenzo[*a*,*d*]cycloheptenyl group, wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms and the methylene group in the heterocyclyl moiety may be replaced by an oxygen or sulphur atom, a carbonyl, sulphinyl, sulphonyl or an imino group substituted by R_x, where

R_x denotes a hydrogen atom or a C_{1-4}-alkyl, C_{2-4}-alkenyl, C_{2-4}-alkynyl, C_{3-6}-cycloalkyl, C_{3-6}-cycloalkyl-C_{1-3}-alkyl, aryl, aryl-C_{1-3}-alkyl, hydroxy-C_{2-4}-alkyl, C_{1-3}-alkyloxy-C_{2-4}-alkyl, C_{3-6}-cycloalkyloxy-C_{2-4}-alkyl, amino-C_{2-4}-alkyl, C_{1-3}-alkylamino-C_{2-4}-alkyl, di-(C_{1-3}-alkyl)-amino-C_{2-4}-alkyl, C_{1-3}-alkyl-carbonyl, C_{1-3}-alkyloxy-carbonyl, C_{1-3}-alkyloxy-carbonyl-C_{1-3}-alkyl, aryl-carbonyl, C_{1-3}-alkyl-sulphonyl or aryl-sulphonyl group,

a 1,2,3,4-tetrahydro-phenanthridinyl, benzo[*f*]quinoxalinyl, 5*H*-dibenzo[*d*,*f*][1,3]diazepinyl, 5H-benzo[*e*]pyrrolo[1,2-a][1,4]diazepinyl, thieno[3,2-b][1,4]benzoxazepinyl or a 3-oxo-2,3-dihydro-isoindol-1-ylidene group, wherein in each case

in the benzo moiety one to three methyne groups may be replaced by nitrogen atoms,

a benzo[1,2,5]oxadiazolyl, dibenzofuranyl, Indolizinyl, 1*H*-perimidinyl, group,

a pyrazolo[1,5-c]quinazolinyl group or an imidazo[2,1-a]isoquinolinyl or imidazo[1,2-a]isoquinolinyl group

wherein the above-mentioned groups R_a may be substituted by the groups R^{10} to R^{13} and may additionally be substituted by a C_{1-3}-alkyl group and

R^{10} denotes a hydrogen atom,

a fluorine, chlorine, bromine or iodine atom,

a C_{1-4}-alkyl, hydroxy, or C_{1-4}-alkyloxy group,

a nitro, amino, C_{1-3}-alkylamino, di-(C_{1-3}-alkyl)amino, cyano-C_{1-3}-alkyl-amino, [N-(cyano-C_{1-3}-alkyl)-N-C_{1-3}-alkyl-amino], C_{1-3}-alkyloxy-carbonyl-C_{1-3}-alkylamino, pyrrolidin-1-yl, piperidin-1-yl, morpholin-4-yl, piperazin-1-yl, or 4-(C_{1-3}-alkyl)-piperazin-1-yl group,

a C_{1-3}-alkyl-carbonylamino, arylcarbonylamino, aryl-C_{1-3}-alkyl-carbonyl-amino, C_{1-3}-alkyloxy-carbonylamino, aminocarbonylamino, C_{1-3}-alkyl-aminocarbonylamino, di-(C_{1-3}-alkyl)aminocarbonylamino, pyrrolidin-1-yl-carbonylamino, piperidin-1-yl-carbonylamino, morpholin-4-yl-carbonylamino, piperazin-1-yl-carbonylamino or 4-(C_{1-3}-alkyl)-piperazin-1-yl-carbonylamino, C_{1-3}-alkyl-sulphonylamino, bis-(C_{1-3}-alkylsulphonyl)-amino, aminosulphonylamino, C_{1-3}-alkylamino-sulphonylamino, di-(C_{1-3}-alkyl)amino-sulphonylamino, pyrrolidin-1-yl-sulphonylamino, piperidin-1-yl-sulphonylamino, morpholin-4-yl-sulphonylamino, piperazin-1-yl-sulphonylamino or 4-(C_{1-3}-alkyl)-piperazin-1-yl-sulphonylamino, (C_{1-3}-

alkylamino)thiocarbonylamino, (C_{1-3}-alkyloxy-carbonylamino)carbonyl-amino, arylsulphonylamino or aryl-C_{1-3}-alkyl-sulphonylamino group,

an N-(C_{1-3}-alkyl)-C_{1-3}-alkyl-carbonylamino, N-(C_{1-3}-alkyl)-arylcarbonyl-amino, N-(C_{1-3}-alkyl)-aryl-C_{1-3}-alkyl-carbonylamino, N-(C_{1-3}-alkyl)-C_{1-3}-alkyloxy-carbonylamino, N-(aminocarbonyl)-C_{1-3}-alkylamino, N-(C_{1-3}-alkyl-aminocarbonyl)-C_{1-3}-alkylamino , N-[di-(C_{1-3}-alkyl)aminocarbonyl]-C_{1-3}-alkylamino, N-(C_{1-3}-alkyl)-C_{1-3}-alkyl-sulphonylamino, N-(C_{1-3}-alkyl)-arylsulphonylamino or N-(C_{1-3}-alkyl)-aryl-C_{1-3}-alkyl-sulphonylamino group,

a 2-oxo-imidazolidin-1-yl, 2,4-dioxo-imidazolidin-1-yl, 2,5-dioxo-imidazolidin-1-yl or 2-oxo-hexahydropyrimidin-1-yl group wherein the nitrogen atom in the 3 position may be substituted in each case by a methyl or ethyl group,

a cyano, carboxy, C_{1-3}-alkyloxy-carbonyl, aminocarbonyl, C_{1-3}-alkyl-aminocarbonyl, di-(C_{1-3}-alkyl)-aminocarbonyl, pyrrolidin-1-yl-carbonyl, piperidin-1-yl-carbonyl, morpholin-4-yl-carbonyl, piperazin-1-yl-carbonyl or 4-(C_{1-3}-alkyl)-piperazin-1-yl-carbonyl group,

a C_{1-3}-alkyl-carbonyl or an arylcarbonyl group,

a carboxy-C_{1-3}-alkyl, C_{1-3}-alkyloxy-carbonyl-C_{1-3}-alkyl, cyano-C_{1-3}-alkyl, aminocarbonyl-C_{1-3}-alkyl, C_{1-3}-alkyl-aminocarbonyl-C_{1-3}-alkyl, di-(C_{1-3}-alkyl)-aminocarbonyl-C_{1-3}-alkyl, pyrrolidin-1-yl-carbonyl-C_{1-3}-alkyl, piperidin-1-yl-carbonyl-C_{1-3}-alkyl, morpholin-4-yl-carbonyl-C_{1-3}-alkyl, piperazin-1-yl-carbonyl-C_{1-3}-alkyl or 4-(C_{1-3}-alkyl)-piperazin-1-yl-carbonyl-C_{1-3}-alkyl group,

a carboxy-C_{1-3}-alkyloxy, C_{1-3}-alkyloxy-carbonyl-C_{1-3}-alkyloxy, cyano-C_{1-3}-alkyloxy, aminocarbonyl-C_{1-3}-alkyloxy, C_{1-3}-alkyl-aminocarbonyl-C_{1-3}-alkyloxy, di-(C_{1-3}-alkyl)-aminocarbonyl-C_{1-3}-alkyloxy, pyrrolidin-1-yl-carbonyl-C_{1-3}-alkyloxy, piperidin-1-yl-carbonyl-C_{1-3}-alkyloxy, morpholin-4-yl-carbonyl-C_{1-3}-alkyl-oxy, piperazin-1-yl-carbonyl-C_{1-3}-alkyloxy or 4-(C_{1-3}-alkyl)-piperazin-1-yl-carbonyl-C_{1-3}-alkyloxy group,

a hydroxy-C_{1-3}-alkyl, C_{1-3}-alkyloxy-C_{1-3}-alkyl, amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl, di-(C_{1-3}-alkyl)-amino-C_{1-3}-alkyl, pyrrolidin-1-yl-C_{1-3}-alkyl, piperidin-1-yl-C_{1-3}-alkyl, morpholin-4-yl-C_{1-3}-alkyl, piperazin-1-yl-C_{1-3}-alkyl, 4-(C_{1-3}-alkyl)-piperazin-1-yl-C_{1-3}-alkyl group,

a hydroxy-C_{1-3}-alkyloxy, C_{1-3}-alkyloxy-C_{1-3}-alkyloxy, C_{1-3}-alkylsulphanyl-C_{1-3}-alkyloxy, C_{1-3}-alkylsulphinyl-C_{1-3}-alkyloxy, C_{1-3}-alkylsulphonyl-C_{1-3}-alkyloxy, amino-C_{1-3}-alkyloxy, C_{1-3}-alkylamino-C_{1-3}-alkyloxy, di-(C_{1-3}-alkyl)-amino-C_{1-3}-alkyloxy, pyrrolidin-1-yl-C_{1-3}-alkyloxy, piperidin-1-yl-C_{1-3}-alkyloxy, morpholin-4-yl-C_{1-3}-alkyloxy, piperazin-1-yl-C_{1-3}-alkyloxy, 4-(C_{1-3}-alkyl)-piperazin-1-yl-C_{1-3}-alkyloxy group,

a mercapto, C_{1-3}-alkylsulphanyl, C_{1-3}-alkylsulphinyl, C_{1-3}-alkylsulphonyl, C_{1-3}-alkylsulphonyloxy, arylsulphonyloxy, trifluoromethylsulphanyl, trifluoromethylsulphinyl or trifluoromethylsulphonyl group,

a sulpho, aminosulphonyl, C_{1-3}-alkyl-aminosulphonyl, di-(C_{1-3}-alkyl)-aminosulphonyl, pyrrolidin-1-yl-sulphonyl, piperidin-1-yl-sulphonyl, morpholin-4-yl-sulphonyl, piperazin-1-yl-sulphonyl or 4-(C_{1-3}-alkyl)-piperazin-1-yl-sulphonyl group,

a methyl or methoxy group substituted by 1 to 3 fluorine atoms,

an ethyl or ethoxy group substituted by 1 to 5 fluorine atoms,

a C_{2-4}-alkenyl or C_{2-4}-alkynyl group,

a C_{3-4}-alkenyloxy or C_{3-4}-alkynyloxy group,

a C_{3-6}-cycloalkyl or C_{3-6}-cycloalkyloxy group,

a C_{3-6}-cycloalkyl-C_{1-3}-alkyl or C_{3-6}-cycloalkyl-C_{1-3}-alkyloxy group or

an aryl, aryloxy, aryl-C_{1-3}-alkyl or aryl-C_{1-3}-alkyloxy group,

R^{11} and R^{12}, which may be identical or different, in each case denote a hydrogen atom, a fluorine, chlorine, bromine or iodine atom, a C_{1-3}-alkyl, trifluoromethyl, hydroxy or C_{1-3}-alkyloxy group or a cyano group, or

R^{11} together with R^{12}, if they are bound to adjacent carbon atoms, also denote a methylenedioxy, difluoromethylenedioxy, ethylenedioxy or a straight-chain C_{3-5}-alkylene group
and

R^{13} denotes a hydrogen atom, a fluorine, chlorine or bromine atom, a trifluoromethyl, C_{1-3}-alkyl or C_{1-3}-alkyloxy group,

R^2 denotes a hydrogen atom,

a C_{1-6}-alkyl group,

a C_{2-4}-alkenyl group,

a C_{3-4}-alkynyl group,

a C_{3-6}-cycloalkyl group,

a C_{3-6}-cycloalkyl-C_{1-3}-alkyl group,

a tetrahydrofuran-3-yl, tetrahydropyran-3-yl, tetrahydropyran-4-yl, tetrahydrofuranylmethyl or tetrahydropyranylmethyl group,

an aryl group,

an aryl-C_{1-4}-alkyl group,

an aryl-C_{2-3}-alkenyl group,

an arylcarbonyl-C_{1-2}-alkyl group,

a heteroaryl-C_{1-3}-alkyl group,

a furanylcarbonylmethyl, thienylcarbonylmethyl, thiazolylcarbonylmethyl or pyridylcarbonylmethyl group,

a C_{1-4}-alkyl-carbonyl-C_{1-2}-alkyl group,

a C_{3-6}-cycloalkyl-carbonyl-C_{1-2}-alkyl group,

an aryl-A-C_{1-3}-alkyl group, wherein A denotes an oxygen or sulphur atom, –NH–, N(C_{1-3}-alkyl), sulphinyl or sulphonyl group,

a C_{1-4}-alkyl group substituted by a group R_b, wherein

R_b denotes a cyano, carboxy, C_{1-3}-alkyloxy-carbonyl, aminocarbonyl, C_{1-3}-alkylamino-carbonyl, di-(C_{1-3}-alkyl)-amino-carbonyl, pyrrolidin-1-ylcarbonyl,

piperidin-1-ylcarbonyl, morpholin-4-ylcarbonyl, piperazin-1-ylcarbonyl, 4-methylpiperazin-1-ylcarbonyl or 4-ethylpiperazin-1-ylcarbonyl group,

or a C_{2-4}-alkyl group substituted by a group R_c, wherein

R_c denotes a hydroxy, C_{1-3}-alkyloxy, amino, C_{1-3}-alkylamino, di-(C_{1-3}-alkyl)-amino, pyrrolidin-1-yl, piperidin-1-yl, morpholin-4-yl, piperazin-1-yl, 4-methyl-piperazin-1-yl or 4-ethyl-piperazin-1-yl group and is isolated from the cyclic nitrogen atom in the 3 position of the xanthine structure by at least two carbon atoms,

R^3 denotes a C_{3-8}-alkyl group,

a C_{1-3}-alkyl group substituted by a group R_d, wherein

R_d denotes a C_{3-7}-cycloalkyl group optionally substituted by one or two C_{1-3}-alkyl groups,

a C_{5-7}-cycloalkenyl group optionally substituted by one or two C_{1-3}-alkyl groups,

an aryl group or

a furanyl, thienyl, oxazolyl, isoxazolyl, thiazolyl, isothiazolyl-, pyridyl, pyridazinyl, pyrimidyl or pyrazinyl group, wherein the above-mentioned heterocyclic groups may be substituted in each case by one or two C_{1-3}-alkyl groups or by a fluorine, chlorine, bromine or iodine atom or by a trifluoromethyl, cyano or C_{1-3}-alkyloxy group,

a C_{3-8}-alkenyl group,

a C_{3-6}-alkenyl group substituted by a fluorine, chlorine or bromine atom or a trifluoromethyl group,

a C_{3-8}-alkynyl group,

an aryl group or

an aryl-C_{2-4}-alkenyl group,

and

R^4 denotes an azetidin-1-yl or pyrrolidin-1-yl group which is substituted in the 3 position by an amino, C_{1-3}-alkylamino or a di-(C_{1-3}-alkyl)amino group and may additionally be substituted by one or two C_{1-3}-alkyl groups,

a piperidin-1-yl or hexahydroazepin-1-yl group which is substituted in the 3 position or in the 4 position by an amino, C_{1-3}-alkylamino or a di-(C_{1-3}-alkyl)amino group and may additionally be substituted by one or two C_{1-3}-alkyl groups,

a 3-amino-piperidin-1-yl group wherein the piperidin-1-yl-moiety is additionally substituted by an aminocarbonyl, C_{1-2}-alkyl-aminocarbonyl, di-(C_{1-2}-alkyl)aminocarbonyl, pyrrolidin-1-yl-carbonyl, (2-cyano-pyrrolidin-1-yl)-carbonyl, thiazolidin-3-yl-carbonyl, (4-cyano-thiazolidin-3-yl)carbonyl, piperidin-1-ylcarbonyl or morpholin-4-ylcarbonyl group,

a 3-amino-piperidin-1-yl group wherein the piperidin-1-yl-moiety is additionally substituted in the 4 position or in the 5 position by a hydroxy or methoxy group,

a 3-amino-piperidin-1-yl group wherein the methylene group in 2 position or in 6 position is replaced by a carbonyl group,

a piperidin-1-yl or hexahydroazepin-1-yl group substituted in the 3 position by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group, wherein in each case two hydrogen atoms on the carbon skeleton of the piperidin-1-yl or hexahydroazepin-1-yl group are replaced by a straight-chain alkylene bridge, wherein this bridge contains 2 to 5 carbon atoms, if the two hydrogen atoms are located on the same carbon atom, or contains 1 to 4 carbon atoms if the hydrogen atoms are located on adjacent carbon atoms, or contains 1 to 4 carbon atoms, if the hydrogen atoms are located on carbon atoms which by are separated by one atom, or contains 1 to 3 carbon atoms if the two hydrogen atoms are located on carbon atoms which are separated by two atoms,

an azetidin-1-yl, pyrrolidin-1-yl, piperidin-1-yl or hexahydroazepin-1-yl group which is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

a piperazin-1-yl or [1,4]diazepan-1-yl group optionally substituted on the carbon skeleton by one or two C_{1-3}-alkyl groups,

a 3-imino-piperazin-1-yl, 3-imino-[1,4]diazepan-1-yl or 5-imino-[1,4]diazepan-1-yl group optionally substituted on the carbon skeleton by one or two C_{1-3}-alkyl groups,

a [1,4]diazepan-1-yl group optionally substituted by one or two C_{1-3}-alkyl groups, which is substituted by an amino group in the 6 position,

a C_{3-7}-cycloalkyl group which is substituted by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group,

a C_{3-7}-cycloalkyl group which is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

a C_{3-7}-cycloalkyl-C_{1-2}-alkyl group wherein the cycloalkyl moiety is substituted by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group,

a C_{3-7}-cycloalkyl-C_{1-2}-alkyl group wherein the cycloalkyl moiety is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

a C_{3-7}-cycloalkylamino group wherein the cycloalkyl moiety is substituted by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group, wherein the two nitrogen atoms on the cycloalkyl moiety are separated from one another by at least two carbon atoms,

an N-(C_{3-7}-cycloalkyl)-N-(C_{1-3}-alkyl)-amino group wherein the cycloalkyl moiety is substituted by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group, wherein the two nitrogen atoms on the cycloalkyl moiety are separated from one another by at least two carbon atoms,

a C_{3-7}-cycloalkylamino group wherein the cycloalkyl moiety is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

an N-(C_{3-7}-cycloalkyl)-N-(C_{1-3}-alkyl)-amino group wherein the cycloalkyl moiety is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

a C_{3-7}-cycloalkyl-C_{1-2}-alkyl-amino group wherein the cycloalkyl moiety is substituted by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group,

an N-(C_{3-7}-cycloalkyl-C_{1-2}-alkyl)-N-(C_{1-2}-alkyl)-amino group wherein the cycloalkyl moiety is substituted by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group,

a C_{3-7}-cycloalkyl-C_{1-2}-alkyl-amino group wherein the cycloalkyl moiety is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

an N-(C_{3-7}-cycloalkyl-C_{1-2}-alkyl)-N-(C_{1-2}-alkyl)-amino group wherein the cycloalkyl moiety is substituted by an amino-C_{1-3}-alkyl, C_{1-3}-alkylamino-C_{1-3}-alkyl or a di-(C_{1-3}-alkyl)amino-C_{1-3}-alkyl group,

an R^{19}-C_{2-4}-alkylamino group wherein R^{19} is separated from the nitrogen atom of the C_{2-4}-alkylamino moiety by at least two carbon atoms and

R^{19} denotes an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)-amino group,

an R^{19}-C_{2-4}-alkylamino group wherein the nitrogen atom of the C_{2-4}-alkylamino moiety is substituted by a C_{1-3}-alkyl group and R^{19} is separated from the nitrogen atom of the C_{2-4}-alkylamino moiety by at least two carbon atoms, wherein R^{19} is as hereinbefore defined,

an amino group substituted by the group R^{20} wherein

R^{20} denotes an azetidin-3-yl, azetidin-2-ylmethyl, azetidin-3-ylmethyl, pyrrolidin-3-yl, pyrrolidin-2-ylmethyl, pyrrolidin-3-ylmethyl, piperidin-3-yl, piperidin-4-yl, piperidin-2-ylmethyl, piperidin-3-ylmethyl or piperidin-4-ylmethyl group, wherein the groups mentioned for R^{20} may each be substituted by one or two C_{1-3}-alkyl groups,

an amino group substituted by the group R^{20} and a C_{1-3}-alkyl group wherein R^{20} is as hereinbefore defined, wherein the groups mentioned for R^{20} may each be substituted by one or two C_{1-3}-alkyl groups,

a R^{19}-C_{3-4}-alkyl group wherein the C_{3-4}-alkyl moiety is straight-chain and may additionally be substituted by one or two C_{1-3}-alkyl groups, wherein R^{19} is as hereinbefore defined,

a 3-amino-2-oxo-piperidin-5-yl or 3-amino-2-oxo-1-methyl-piperidin-5-yl group,

a pyrrolidin-3-yl, piperidin-3-yl, piperidin-4-yl, hexahydroazepin-3-yl or hexahydroazepin-4-yl group which is substituted in the 1 position by an amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)amino group,

or an azetidin-2-yl-C_{1-2}-alkyl, azetidin-3-yl-C_{1-2}-alkyl, pyrrolidin-2-yl-C_{1-2}-alkyl, pyrrolidin-3-yl, pyrrolidin-3-yl-C_{1-2}-alkyl, piperidin-2-yl-C_{1-2}-alkyl, piperidin-3-yl, piperidin-3-yl-C_{1-2}-alkyl, piperidin-4-yl or piperidin-4-yl-C_{1-2}-alkyl group, wherein the above-mentioned groups may each be substituted by one or two C_{1-3}-alkyl groups,

wherein by the aryl groups mentioned in the definition of the above groups are meant phenyl or naphthyl groups, which may be mono- or disubstituted by R_h independently of one another, where the substituents are identical or different and R_h denotes a fluorine, chlorine, bromine or iodine atom, a trifluoromethyl, cyano, nitro, amino, aminocarbonyl, aminosulphonyl, methylsulphonyl, acetylamino, methylsulphonylamino, C_{1-3}-alkyl, cyclopropyl, ethenyl, ethynyl, hydroxy, C_{1-3}-alkyloxy, difluoromethoxy or trifluoromethoxy group,

by the heteroaryl groups mentioned in the definitions of the above mentioned groups are meant a pyrrolyl, furanyl, thienyl, pyridyl, indolyl, benzofuranyl, benzothiophenyl, quinolinyl or isoquinolinyl group,

or a pyrrolyl, furanyl, thienyl or pyridyl group wherein one or two methyne groups are replaced by nitrogen atoms,

or an indolyl, benzofuranyl, benzothiophenyl, quinolinyl or isoquinolinyl group wherein one to three methyne groups are replaced by nitrogen atoms,

and the above-mentioned heteroaryl groups may be mono- or disubstituted by R_h, wherein the substituents may be identical or different and R_h is as hereinbefore defined,

and, unless otherwise specified, the above-mentioned alkyl, alkenyl and alkynyl groups may be straight-chain or branched,

or the tautomers, enantiomers, diastereomers, the mixtures thereof, the prodrugs thereof and the salts thereof.

2. (Previously presented) The Compound according to claim 1, wherein

R^1 denotes a methyl group substituted by a group R_a, where

R_a denotes a 1,4-dihydro-quinazolinyl or 3,4-dihydro-quinazolinyl group,

a 3,4-dihydro-isoquinolinyl group,

a 1*H*-benzo[*d*][1,2]oxazinyl or 1-oxo-1*H*-benzo[*d*][1,2]oxazinyl group,

a 4*H*-benzo[*e*][1,3]oxazinyl or 4-oxo-4H-benzo[*e*][1,3]oxazinyl group,

a 4*H*-benzo[*d*][1,3]oxazinyl or 4-oxo-4*H*-benzo[*d*][1,3]oxazinyl group,

2*H*-benzo[1,4]oxazinyl or 2-oxo-2*H*-benzo[1,4]oxazinyl group,

a 4*H*-benzo[*e*][1,3]thiazinyl or 4-oxo-4*H*-benzo[*e*][1,3]thiazinyl group,

a 4*H*-benzo[*d*][1,3]thiazinyl or 2*H*-benzo[1,4]thiazinyl group,

a 2-oxo-2*H*-benzo[*e*][1,3]oxazinyl or 2,2-dioxo-1*H*-benzo[*c*][1,2]thiazinyl group,

a 2,3-dihydro-1*H*-benzo[*e*][1,4]diazepinyl or 2-oxo-2,3-dihydro-1*H*-benzo[*e*][1,4]diazepinyl group,

a 4,5-dihydro-3*H*-benzo[*b*][1,4]diazepinyl or 4-oxo-4,5-dihydro-3*H*-benzo[*b*][1,4]diazepinyl group,

a 5-oxo-4,5-dihydro-3*H*-benzo[*e*][1,4]diazepinyl group,

a 2,3-dihydro-benzo[*f*][1,4]oxazepinyl or 2,3-dihydro-benzo[*b*][1,4]oxazepinyl group,

a 2,3-dihydro-benzo[*f*][1,4]thiazepinyl- 2,3-dihydro-benzo[*b*][1,4]thiazepinyl group,

a 5-oxo-4,5-dihydro-benzo[*f*][1,3,4]oxadiazepinyl group,

an 11*H*-dibenzo[*b*,*e*]azepinyl or 11-oxo-11*H*-dibenzo[*b*,*e*]azepinyl group,

an 11*H*-benzo[*e*]pyrido[3,2-*b*]azepinyl group,

a 5*H*-dibenzo[*b*,*e*][1,4]diazepinyl or dibenzo[*b*,*f*][1,4]oxazepinyl group,

a dibenzo[*b*,*f*][1,4]thiazepinyl, 5-oxo-dibenzo[*b*,*f*][1,4]thiazepinyl or 5,5-dioxo-dibenzo[*b*,*f*][1,4]thiazepinyl group,

5H-dibenzo[*a*,*d*]cycloheptenyl or 5*H*-dibenzo[*b*,*f*]azepinyl group,

a benzo[*c*][1,5]naphthyridinyl, benzo[*h*][1,6]naphthyridinyl, benzo[*c*][1,8]naphthyridinyl or 1,2,3,4-tetrahydro-phenanthridinyl group,

a benzo[*f*]quinoxalinyl group,

a 5*H*-dibenzo[*d*,*f*][1,3]diazepinyl, 5H-benzo[*e*]pyrrolo[1,2-*a*][1,4]diazepinyl or thieno[3,2-b][1,4]benzoxazepinyl group,

a 3-oxo-2,3-dihydro-isoindol-1-ylidene group,

a benzo[1,2,5]oxadiazolyl group,

a dibenzofuranyl group,

an indolizinyl group,

a 1*H*-perimidinyl group,

a pyrazolo[1,5-c]quinazolinyl group or

an imidazo[2,1-a]isoquinolinyl or imidazo[1,2-a]isoquinolinyl group

wherein the benzo groups of the above-mentioned groups R_a are substituted by the groups R^{10} to R^{12} and the alkylene units of the above-mentioned groups R_a may be substituted by one or two C_{1-3}-alkyl or C_{1-3}-alkyloxy-carbonyl groups, wherein the groups may be identical or different, or by a trifluoromethyl group, and the imino groups of the above-mentioned groups R_a may be substituted by a C_{1-3}-alkyl group and

R^{10} denotes a hydrogen atom,

a fluorine, chlorine, bromine or iodine atom,

a C_{1-3}-alkyl or cyclopropyl group,

a hydroxy, C_{1-3}-alkyloxy or cyclopropyloxy group,

a nitro, amino, C_{1-3}-alkylamino or di-(C_{1-3}-alkyl)amino group,

a C_{1-3}-alkyl-carbonylamino or C_{1-3}-alkyl-sulphonylamino group,

a cyano, carboxy, C_{1-3}-alkyloxy-carbonyl, aminocarbonyl, C_{1-3}-alkyl-aminocarbonyl or di-(C_{1-3}-alkyl)-aminocarbonyl group,

a mercapto, C_{1-3}-alkylsulphanyl, C_{1-3}-alkylsulphinyl or C_{1-3}-alkylsulphonyl or aminosulphonyl group or

a difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy group and

R^{11} and R^{12}, which may be identical or different, in each case represent a hydrogen atom, a fluorine, chlorine or bromine atom, a methyl, trifluoromethyl or methoxy group,

R^2 denotes a hydrogen atom,

a C_{1-3}-alkyl group,

a C_{3-6}-cycloalkyl group or

a phenyl group optionally mono- or disubstituted by a fluorine, chlorine, bromine or iodine atom, a trifluoromethyl, cyano, nitro, amino, aminocarbonyl, aminosulphonyl, methylsulphonyl, acetylamino, methylsulphonylamino, C_{1-3}-alkyl, cyclopropyl, ethenyl, ethynyl, hydroxy, C_{1-3}-alkyloxy, difluoromethoxy or trifluoromethoxy group, wherein the substituents may be identical or different,

R^3 denotes a 2-buten-1-yl or 3-methyl-2-buten-1-yl group,

a 2-butyn-1-yl group or

a 1-cyclopenten-1-ylmethyl group

and

R^4 denotes a (3-amino-piperidin-1-yl) group,

wherein, unless otherwise stated, the above-mentioned alkyl groups may be straight-chain or branched.

3. (Previously presented) The Compound according to claim 2, wherein

R^1 denotes a methyl group substituted by a group R_a, where

R_a denotes a 1,4-dihydro-quinazolin-2-yl or 3,4-dihydro-quinazolin-2-yl group,

a 3,4-dihydro-isoquinolin-1-yl group,

a 1*H*-benzo[*d*][1,2]oxazin-4-yl or 1-oxo-1*H*-benzo[*d*][1,2]oxazin-4-yl group,

a 4*H*-benzo[*e*][1,3]oxazin-2-yl or 4-oxo-4H-benzo[*e*][1,3]oxazin-2-yl group,

a 4*H*-benzo[*d*][1,3]oxazin-2-yl or 4-oxo-4*H*-benzo[*d*][1,3]oxazin-2-yl group,

2*H*-benzo[1,4]oxazin-3-yl or 2-oxo-2*H*-benzo[1,4]oxazin-3-yl group,

a 4*H*-benzo[*e*][1,3]thiazin-2-yl or 4-oxo-4*H*-benzo[*e*][1,3]thiazin-2-yl group,

a 4*H*-benzo[*d*][1,3]thiazin-2-yl or 2*H*-benzo[1,4]thiazin-3-yl group,

a 2-oxo-2*H*-benzo[*e*][1,3]oxazin-4-yl or 2,2-dioxo-1*H*-benzo[*c*][1,2]thiazin-4-yl group,

a 2,3-dihydro-1*H*-benzo[*e*][1,4]diazepin-5-yl or 2-oxo-2,3-dihydro-1*H*-benzo[*e*][1,4]diazepin-5-yl group,

a 4,5-dihydro-3*H*-benzo[*b*][1,4]diazepin-2-yl or 4-oxo-4,5-dihydro-3*H*-benzo[*b*][1,4]diazepin-2-yl group,

a 5-oxo-4,5-dihydro-3*H*-benzo[*e*][1,4]diazepin-2-yl group,

a 2,3-dihydro-benzo[*f*][1,4]oxazepin-5-yl or 2,3-dihydro-benzo[*b*][1,4]oxazepin-4-yl group,

a 2,3-dihydro-benzo[*f*][1,4]thiazepin-5-yl or 2,3-dihydro-benzo[*b*][1,4]thiazepin-4-yl group,

a 5-oxo-4,5-dihydro-benzo[*f*][1,3,4]oxadiazepin-2-yl group,

an 11*H*-dibenzo[*b*,*e*]azepin-6-yl or 11-oxo-11*H*-dibenzo[*b*,*e*]azepin-6-yl group,

an 11*H*-benzo[*e*]pyrido[3,2-*b*]azepin-6-yl group

a 5*H*-dibenzo[*b*,*e*][1,4]diazepin-11-yl or dibenzo[*b*,*f*][1,4]oxazepin-11-yl group,

a dibenzo[*b*,*f*][1,4]thiazepin-11-yl, 5-oxo-dibenzo[*b*,*f*][1,4]thiazepin-11-yl or 5,5-dioxo-dibenzo[*b*,*f*][1,4]thiazepin-11-yl group,

a 5H-dibenzo[*a*,*d*]cyclohepten-10-yl or 5*H*-dibenzo[*b*,*f*]azepin-10-yl group,

a benzo[*c*][1,5]naphthyridin-6-yl, benzo[*h*][1,6]naphthyridin-5-yl, benzo[*c*][1,8]naphthyridin-6-yl or 1,2,3,4-tetrahydro-phenanthridin-6-yl group,

a benzo[*f*]quinoxalin-6-yl group,

a 5*H*-dibenzo[*d*,*f*][1,3]diazepin-6-yl, 5H-benzo[*e*]pyrrolo[1,2-*a*][1,4]diazepin-11-yl or thieno[3,2-b][1,4]benzoxazepinyl-9-yl group,

a 3-oxo-2,3-dihydro-isoindol-1-ylidene group,

a benzo[1,2,5]oxadiazol-5-yl group,

a dibenzofuran-2-yl group,

an indolizin-2-yl group,

a 1*H*-perimidin-2-yl group,

a pyrazolo[1,5-c]quinazolin-5-yl group or

an imidazo[2,1-a]isoquinolin-2-yl or imidazo[1,2-a]isoquinolin-2-yl group

wherein the benzo groups of the above-mentioned groups R_a are substituted by the groups R^{10} to R^{12} and the alkylene units of the above-mentioned groups R_a may be substituted by one or two methyl- or methoxy-carbonyl groups, wherein the groups may be identical or different, or by a trifluoromethyl group and the imino groups of the above-mentioned groups R_a may be substituted by a methyl group and

R^{10} denotes a hydrogen atom,

a fluorine, chlorine, bromine or iodine atom,

a methyl or ethyl group,

a hydroxy, methoxy or ethoxy group or

a difluoromethyl, trifluoromethyl, difluoromethoxy or trifluoromethoxy group and

R^{11} and R^{12}, which may be identical or different, each represent a hydrogen atom, a fluorine, chlorine or bromine atom, a methyl, trifluoromethyl or methoxy group,

R^2 denotes a hydrogen atom or

a methyl, ethyl, propyl, isopropyl, phenyl or cyclopropyl group,

R^3 denotes a 2-buten-1-yl or 3-methyl-2-buten-1-yl group,

a 2-butyn-1-yl group or

a 1-cyclopenten-1-ylmethyl group

and

R^4 denotes a (3-amino-piperidin-1-yl) group.

4. (Previously presented) The Compound according to claim 3, wherein

R^1 denotes a 3-methoxycarbonyl-3-methyl-3,4-dihydro-isoquinolin-1-ylmethyl group,

a 1-methyl-2,2-dioxo-1*H*-benzo[*c*][1,2]thiazin-4-ylmethyl group,

a 2,3-dihydro-benzo[*f*][1,4]oxazepin-5-ylmethyl group,

a 2-oxo-2,3-dihydro-1*H*-benzo[*e*][1,4]diazepin-5-ylmethyl group,

a 1,2,3,4-tetrahydro-phenanthridin-6-ylmethyl group,

an 11*H*-dibenzo[*b*,*e*]azepin-6-ylmethyl group,

a dibenzo[*b*,*f*][1,4]oxazepin-11-ylmethyl group,

a 3-oxo-2,3-dihydro-isoindol-1-ylidenemethyl group,

a 3-trifluoromethyl-3,4-dihydro-isoquinolin-1-ylmethyl group,

a 3,4-dihydro-quinazolin-2-ylmethyl group,

a 5-methyl-5*H*-dibenzo[*b*,*e*][1,4]diazepin-11-ylmethyl group,

an 8-methyl-dibenzo[b,*f*][1,4]oxazepin-11-ylmethyl group,

a benzo[1,2,5]oxadiazol-5-ylmethyl group,

an 8-methyl-phenanthridin-6-ylmethyl group,

a 1-methyl-phenanthridin-6-ylmethyl group,

a 4-methyl-phenanthridin-6-ylmethyl group,

a benzo[*h*][1,6]naphthyridin-5-ylmethyl group,

a pyrazolo[1,5-c]quinazolin-5-yl group,

a benzo[*c*][1,8]naphthyridin-6-ylmethyl group,

a benzo[*c*][1,5]naphthyridin-6-ylmethyl group,

a 1*H*-perimidin-2-ylmethyl group,

a benzo[*f*]quinoxalin-6-ylmethyl group or

an imidazo[2,1-a]isoquinolin-2-ylmethyl or imidazo[1,2-a]isoquinolin-2-ylmethyl group,

R^2 denotes a methyl or cyclopropyl group,

R^3 denotes a 2-buten-1-yl, 3-methyl-2-buten-1-yl or 2-butyn-1-yl group

and

R^4 denotes a (3-amino-piperidin-1-yl) group,

the tautomers, enantiomers, diastereomers, the mixtures thereof and the salts thereof.

5. (Previously presented) A compound chosen from:
(1) 1-[(1-methyl-2,2-dioxo-1*H*-benzo[*c*][1,2]thiazin-4-yl)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(2) 1-[(3-methoxycarbonyl-3-methyl-3,4-dihydro-isoquinolin-1-yl]methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(3) 1-[(2-oxo-2,3-dihydro-1H-benzo[*e*][1,4]diazepin-5-yl)methyl]-3-methyl-7-((E)-2-buten-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(5) 1-[(1,2,3,4-tetrahydro-phenanthridin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(6) 1-[(11*H*-dibenzo[*b*,*e*]azepin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(7) 1-[(dibenzo[*b*,*f*][1,4]oxazepin-11-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(8) 1-[(3-trifluoromethyl-3,4-dihydro-isoquinolin-1-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(9) 1-[(dibenzo[*b*,*f*][1,4]oxazepin-11-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(10) 1-[(3,4-dihydro-quinazolin-2-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(11) 1-[(5-methyl-5*H*-dibenzo[*b*,e][1,4]diazepin-11-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(12) 1-[(8-methyl-dibenzo[*b*,*f*][1,4]oxazepin-11-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(13) 1-[(benzo[1,2,5]oxadiazol-5-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(15) 1-[(8-methyl-phenanthridin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(18) 1-[(1-methyl-phenanthridin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(19) 1-[(4-methyl-phenanthridin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(20) 1-[(benzo[*h*][1,6]naphthyridin-5-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(21) 1-[(pyrazolo[1,5-c]quinazolin-5-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(22) 1-[(benzo[*c*][1,8]naphthyridin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(23) 1-[(benzo[*c*][1,5]naphthyridin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(24) 1-[(1*H*-perimidin-2-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(25) 1-[(benzo[*f*]quinoxalin-6-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-((*R*)-3-amino-piperidin-1-yl)-xanthine,

(26) 1-[(imidazo[2,1-a]isoquinolin-2-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(27) 1-[(imidazo[1,2-a]isoquinolin-2-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine,

(29) 1-[(2,3-dihydro-benzo[*f*][1,4]oxazepin-5-yl)methyl]-3-methyl-7-(2-butyn-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine, and

(30) 1-[(3-oxo-2,3-dihydro-isoindol-1-ylidene)methyl]-3-methyl-7-(3-methyl-2-buten-1-yl)-8-(3-amino-piperidin-1-yl)-xanthine

or the salts thereof.

6. (Original) A Physiologically acceptable salt of a compound according to claim 1 or 5 with inorganic or organic acids or bases.

7. (Original) A Pharmaceutical composition comprising a pharmaceutically effective amount of a compound according to claim 1 optionally together with one or more inert carriers and/or diluents.

8. (Currently amended) A method comprising administering to a patient in need thereof a compound according to claim 1 in an amount effective for the prevention or treatment of a disease or a condition ~~associated with an increased DPP-IV activity.~~ selected from the group consisting of type I and type II diabetes mellitus, obesity, and calcitonin-induced osteoporosis.

9. (Currently amended) A method comprising administering to a patient in need thereof a compound according to claim 1 in an amount effective for the ~~prevention or~~ treatment of a disease or a condition ~~that is capable of being prevented or alleviated by reducing the DPP-IV activity.~~ selected from the group consisting of type I and type II diabetes mellitus, obesity, and calcitonin-induced osteoporosis.